

Counterfactual Thinking And Its Relationship To Behavioral Governance

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Abstract

The purpose of this research is to test the relationship between Counterfactual thinking and behavioral governance), as the researchers measured and tested the correlation and effect relationships between the various research variables, and to achieve this, the research used a set of sober foreign measures that dealt with the research variables, and the research sample included (100) employees of the Ministry of Planning, while the questionnaire was the main tool for measuring the variables of the study, then the data was analyzed through a set of advanced statistical tools, including the (Eviews) program, (Smart Pls) program, Alpha Cronbach and the confirmatory factor analysis factor. The results of the research The validity of the research hypotheses and in the light of which a set of conclusions was formulated, the most important of which was that there is a relationship between Counterfactual thinking and behavioral governance. The most important of them was the need to increase motivation and perseverance towards improving future behavior, achieving goals in general, and strengthening behavioral assessment for the purpose of providing services to communities. in a more transparent and accountable way.

Keywords: Counterfactual thinking. behavioral governance. Iraqi Ministry of Planning

Introduction

Counterfactual thinking are mental representations of alternatives to past events, actions, or states Early perceptions of counterfactual thinking were based on heuristic simulations counterfactual thinking can lead to learning from mistakes and identification of alternative

courses of action Dissenting thinking is often triggered by negative events ,, the negative influence may act as a warning system, which then leads to an increase in the range of cognitive activity which leads to the development of a greater number of dissenting facts hence the effect can be a useful tool for understanding the dissenting thinking process itself and thus can act as a moderating factor during thinking tasks The antidote. The functionalist view of dissenting thinking asserts that the process itself may be top-down rather than bottom-up, making dissenting thinking an important and almost necessary part of regulating behavior through behavioral governance as it serves as a comprehensive reference for researchers in interdisciplinary (Lu et al. ,,2020:1) and helps organizations realize new opportunities and create value in a sustainable way (MRAD, 2010:49). To achieve the goal of the research, the research was divided into four sections. The first section dealt with the scientific methodology, and the second specialized in presenting the philosophical foundations and cognitive frameworks for the research variables, while the topic concerned itself with The third is the analytical aspect of the research hypotheses in which the Iraqi Ministry of Planning was chosen, and the fourth topic was devoted to presenting the conclusions and recommendations reached by the research.

The first topic: the scientific methodology

First: the research problem

Counterfactual thinking is mental representations of an individual's past alternatives, as early research focused mainly on theory and produced counterfactual thought and emotion, gradually being taken seriously (Fan et al., 2019:1). Human perception allows making inferences about events and situations without having to experience them directly, as thinking about past experiences makes important events throughout life become meaningful when they are re-evaluated and reconsidered. Contrasting thinking, and anti-reality ideas are perceptions or clarifications that are an alternative to past events, (Justino et al., 2018: 63), and based on the foregoing, the research problem is an attempt to frame the relationship between Counterfactual thinking and behavioral governance. The problem can be formulated by the following main question Absence of awareness of the organization under study about the importance of thinking contrary to reality and its relationship to behavioral governance.

- 1- What is the nature of the relationship between Counterfactual thinking and behavioral governance?
- 2- What is the impact of Counterfactual thinking and behavioral governance? .

Second: the importance of research

The importance of research is related to two aspects.

A- Theoretical importance:

1. The current research is a first and serious attempt to frame the philosophical relationship between two important concepts: “Counterfactual thinking and behavioral governance”. Within the limits of the researchers knowledge, there is a scarcity of studies, if not non-existent, that concerned with studying the nature of the relationship that combines the two variables, in a hypothetical model that seeks to identify The nature of this relationship to bridge the knowledge gap.

2. Contribute to providing a theoretical framework that accommodates the research variables by presenting a summary of the ideas of researchers and thinkers in this field of knowledge.

3. The current research seeks to find appropriate mechanisms to maintain work by focusing on transparency and justice within the workplace.

b- Practical importance:

1- There are no studies that shed light on “Counterfactual thinking and behavioral governance” within the limits of the researchers knowledge, in Iraqi organizations in general and in the Iraqi Ministry of Planning in particular, through which it is possible to know the extent of the impact of the relationship between “Counterfactual thinking and behavioral governance”

2- The possibility of benefiting from the results of the current research in developing the reality of government institutions.

3- Opening future horizons for various researchers to carry out future studies in this field.

4- Benefiting from the results of the current research in taking appropriate corrective measures through which practical mechanisms can be provided to help the relevant institution in overcoming this critical juncture within its organizational life.

Third: the research objectives

The research aims to:

1- Determining the relationship and impact between Counterfactual thinking and behavioral governance.

2- Determining the relationship and impact between influence and behavioral governance.

3- Determining the relationship and the effect of cognitive style and behavioral governance.

4- Determine the relationship and impact between confrontation strategy and behavioral governance.

Fourth: Research hypotheses

The research was based on two main hypotheses:

A- Correlation hypothesis: There is a significant correlation between Counterfactual thinking and behavioral governance, and the following sub-hypotheses emerge from it.

- There is a correlation between influence and behavioral governance
- There is a correlation between cognitive style and behavioral governance
- There is a correlation between Confrontation strategies and behavioral governance

2- Impact hypothesis: There is a significant effect relationship between Counterfactual thinking and behavioral governance, from which the following sub-hypotheses emerge

- There is an impact relationship between influence and behavioral governance.
- There is an impact relationship between the cognitive style and behavioral governance
- There is an impact relationship between the Confrontation strategies and behavioral governance.

Fifth: Hypothetical Research Model:

A hypothetical research model was designed based on the paragraphs and contents shown in the research problem and objectives, as shown in Figure (1).

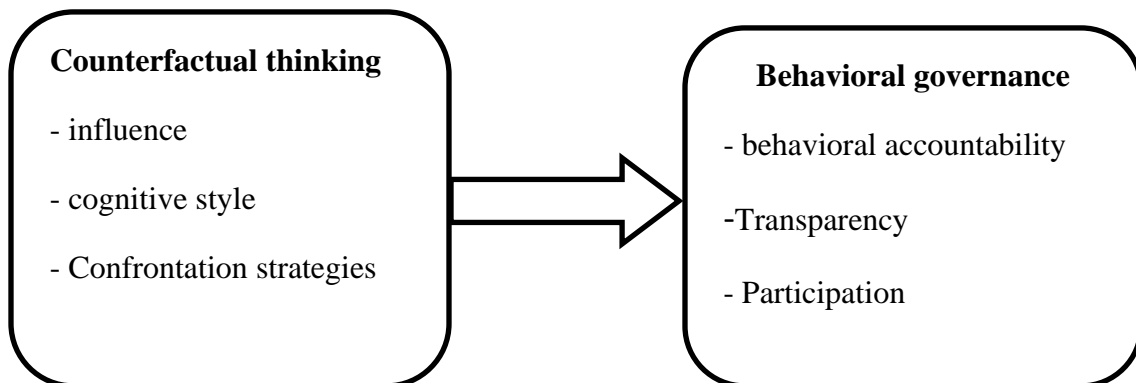


Figure (1) The hypothesis model for the research

Source: prepared by researchers

The second topic: the theoretical side

First: The concept of Counterfactual Thinking

Psychological researchers have found that divergent thoughts play an important role in mental life, informing decisions, shaping feelings, and contextualizing knowledge. Counterfactual

thoughts refer to mental perceptions that explicitly contradict facts or beliefs (Roese & Morrison, 2009: 16), Counterfactual thinking is a common and widespread feature in the mental landscape (He et al., 2020: 153) as it is one of the components of making A human decision that involves “if only” thinking about choices and unchosen outcomes is associated with strong emotional reactions to regret when the outcome obtained is below reality (Wu et al., 2021: 3). It is central to human thinking and is ubiquitous, as the term “contrary to reality” means “literally the opposite of facts.” The principles and consequences of Counterfactual thinking are currently manifested in a variety of disciplines such as logic, philosophy, psychology, cognitive processes, sociology, economics, history, and political science (Karpenko, 2017:1), Counterfactual thinking often occurs about how real-world situations differ in everyday thinking. People spontaneously think about how an outcome might have turned out differently, and mentally cancel out aspects of the events that led to it. (Byrne & Mc Eleney, 2000: 1318). (Schwartz, 2009: 1) explained that anti-thinking attitudes are mental representations of past alternatives, and produce both beneficial and aversive consequences for the individual, as Counterfactual thinking is automatically activated in response to negative influence, and specifically targets potential causes of unfortunate, counterfactuals lead to emotional consequences negative. When individuals in the community face a group dilemma, the dissenting thinking enhances coordination in the problems of group work that occur in a large number of the population, and the pivotal role of Counterfactual thinking in mental life becomes clear through its impact on a set of emotional, cognitive and behavioral variables. It serves many functions, including directing and enhancing subsequent performance. (Kray, al et, 2010: 107) Counterfactual thinking is thinking of alternatives to events that have already occurred. (Barnett and Maciel, 2019: 3).

Second: Dimensions of Counterfactual Thinking:

1. **Influence:** Negative influence often activates counterfactual thinking The relationship between influence and counteractions is a reciprocal, where a counterfactual can trigger emotional reactions, upward counterfactuals can provoke a negative effect while downward counterfactuals can provoke a positive effect) (Rye et al., 2008: 262). The frequency of upward counterfactual thoughts about how things might work better increases when there is a greater chance of correction in the future, upward counterfactual thoughts are more likely to occur if the situation is seen as repeatable and when causally significant aspects of the situation are seen as Under rapid control (Fazelpour,, 2020: 11).

2. **Cognitive style:** thinking is related to different aspects of the cognitive style such as beliefs about self or the world. It was found that participants with social anxiety were more likely to reflect and also to include more counterfactual thoughts than participants low in social anxiety. Normally shutting down but circulating frequently may occur in some individuals, but this likely represents a breakdown in a normal functional process of checks and balances, or activation and inhibition”.

3. **Confrontation strategies:** Dissenting thinking is often related to one's views of oneself. It was found that participants with high self-esteem were more likely than participants with low self-esteem to generate adverse situations after success while participants with low self-esteem were more likely than participants with low self-esteem. High self-esteem to generate counterfactuals after failure. (Rye et al., 2008: 262).

Third: The concept of behavioral governance

There is a well-researched truth and wisdom, that nothing works well unless human behavior aligns with the path to success, and no organization fails, suffers fraud, or gets upset except by the behavior of its executives, so Bello JA (1988) argues that organizations as human devices tend to be imperfect in its ways of working due to the flaws and failures of human behavior, as no organization succeeds as a long-term enterprise without sound governance, and no country succeeds without the proper management of its political and economic institutions, and since governance is the act of human beings subject to the fluctuations of personality and its outcomes, its quality The success of organizations depends on the behavioral quality of those who govern and manage (Chibuike, 2010:2).

Before defining the term behavioral governance, let us first get acquainted with the term governance, as the current academic and political literature revealed that there are multiple definitions of this term, as the word "governance" means the decision-making process and the process by which decisions are implemented or not implemented, as Governance can be used in many contexts such as corporate governance, international governance, national governance and local governance, and since governance is the process of decision-making and the process by which decisions are implemented, governance analysis focuses on the formal and informal actors involved in the decision-making and implementation of decisions taken and structures Formal and informal that were developed to reach and implement the decision Behavioral governance is involved in many areas in our daily lives, it is practiced at levels such as the family, society, local government, national, even regional and international (Jubaer, 2021: 2).

Since policy-making and governance involve efforts to modify or change the behavior of policy makers and centers around decision-making processes, he has always been interested in behavioral psychology (Howlett & Rawat, 2019:1). Behavioral, bureaucratic behavior is a challenge facing the application of behavioral governance, which makes the system of governance more costly to succeed (Lim, 2006:4). Huse (2007) pointed out that behavioral governance includes studies that adopt a behavioral perspective that seeks to reveal the complex psychological, logical, cognitive and emotional factors that affect the People's behavior produces valuable insights into the way established actors work, collaborate, and make strategic decisions (Bodolica & Spraggon, 2010: 537). From the side of psychology, the concept of behavioral governance is the management of mind, brain, behavior, policy formation, and management of organizations through neuroscience (Carter, 2020: :1-5).

Fourth: Dimensions of Behavioral Governance

The researcher (Al-Khaldi, 2014:15-16) identified eight dimensions of behavioral governance, but the researcher was limited to three of them, according to the research under study:

1. **Behavioral accountability:** Two types of accountability can be distinguished in human organizations, including behavioral and financial accountability. Behavioral accountability is summarized through the ethical, functional and valid obligations of corporate managers towards the company and society in managing their basic roles in management, decision-making, supervision and accountability (Chibuike, 2010:6). From this standpoint, behavioral accountability is to hold governmental and non-governmental institutions responsible for their actions.

2. **Transparency:** providing accessible and available information to those who will be affected by decisions.

3. **Participation:** ensuring the direct or indirect participation of each employee in the decision-making process.

The third topic: The analytical side of the research hypotheses

The research through this topic will focus on detecting and knowing the level of the items and dimensions of the research using the statistical description from an arithmetic mean and standard deviation and making sure that the data are distributed normal distribution, and testing the internal consistency through Cronbach's alpha for dimensions and confirmatory factor analysis for the items, it will also reveal the amount and nature of the correlation relationships And the effect between its main and sub-variables, Counterfactual thinking and behavioral governance, according to the following:

First: Statistical description and testing of correlation relations hypotheses for the main and sub-variables of the research: This part of the research specializes in a statistical presentation through which the test and analysis of the correlation relations between the two research variables Counterfactual thinking and behavioral governance will also be identified. The level of thinking contrary to reality and dimensions of behavioral governance in the organization will be identified The respondents, and they will be tested according to their presence in the hypothetical research scheme, according to Table (1) below, which shows the level of Counterfactual thinking and the dimensions of behavioral governance for the sample studied through the statistical description that includes the arithmetic mean and standard deviation. It was found that the level of thinking contrary to reality and behavioral governance in the organization in question, according to the hypothetical mean, is (3), it is acceptable, so it is noted from Table (1) that all Counterfactual thinking and the dimensions of behavioral governance achieved arithmetic averages higher than (3), and the hypotheses of the study will be tested. It concerns the correlation between counterfactual thinking and behavioral governance, that is, is there a correlation between

Counterfactual thinking and behavioral governance, as shown in Table (1), and this hypothesis will be tested as stated in the hypothetical scheme.

Table (1) Statistical description of the level of counterfactual thinking

	INFLUENCE	COGNITIVE_ STYLE	CONFRONTATION_ STRATEGIES	COUNTERFACTUAL_ THINKING
Mean	3.81	3.71	3.54	3.68
Median	4.00	4.00	4.00	4.00
Maximum	5.00	5.00	5.00	5.00
Minimum	2.50	2.25	1.50	2.08
Std. Dev.	0.71	0.77	0.92	0.78
Skewness	-0.27	-0.60	-0.89	-0.62
Kurtosis	2.52	2.79	2.78	2.61
Jarque-Bera	2.16	2.25	2.48	2.06
Probability	0.34	0.064	0.295	0.103

Source: Researchers' reliance on the results of the (E views) program

It is noticed from Table (1) that the variable (counterfactual thinking) achieved an arithmetic mean ability (3.68) by more than (60%), meaning that this thinking is present at a noticeable level because the dimensions of counterfactual thinking to reality achieved large values to some extent. (INFLUENCE) has achieved the largest arithmetic mean, followed by (COGNITIVE STYLE) and in the last order after (CONFRONTATION STRATEGIES), and it is also noted that all (Skewness) are directed towards the left side with percentages less than (1+) and greater than (1-) and this indicates that The skewness is within the level of the normal distribution, and the value of (Kurtosis) is positive, which is a condition that must be met in tests of the normal distribution, and that the level of significance of the values of (Jarque-Bera) was higher than (5%), and this indicates that the dimensional data within normal distribution.

Table (2) Statistical description of the level of counterfactual thinking

	BEHAVIORAL_ ACCOUNTABILIT	TRANSPARENCY	PARTICIPATION	BEHAVIORAL_ GOVERNANCE
Mean	3.51	3.51	3.58	3.53
Median	4.00	4.00	4.00	4.00
Maximum	5.00	5.00	5.00	5.00
Minimum	1.25	1.00	1.67	1.31
Std. Dev.	1.03	1.07	0.88	0.98
Skewness	-0.73	-0.68	-0.64	-0.64
Kurtosis	2.49	2.60	2.39	2.33
Jarque-Bera	9.99	8.50	8.36	8.68

Probability	0.01	0.01	0.02	0.01
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Source: Researchers' reliance on the results of the (E views) program

It is noted from Table (2) that the variable (Behavioral Governance) achieved an arithmetic mean of (3.53) by more than (60%), meaning that this thinking is present at a noticeable level because the dimensions of behavioral governance achieved fairly large values). (PARTICIPATION) has achieved the largest arithmetic mean after (BEHAVIORAL ACCOUNTABILTY) and in the last rank after (TRANSPARENCY), and it is also noted that all (Skewness) are directed towards the left with ratios less than (1+) and greater than (1-) and this indicates that the skewness within The level of the normal distribution, and the value of (Kurtosis) is positive, which is a condition that must be fulfilled in the tests of the normal distribution, and that the level of significance of the values of (Jarque-Bera) was higher than (5%), and this indicates that the dimensional data are within the normal distribution.

Table (3) Statistical description and correlation matrix for main and sub-variables

		Inf	Cog	Con	Cou	Beh	Tra	Pai	Beha
Inf	Pearson Correlation	1	.962**	.932**	.978**	.956**	.944**	.946**	.963**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
Cog	Pearson Correlation		1	.954**	.988**	.968**	.951**	.962**	.974**
	Sig. (2-tailed)			.000	.000	.000	.000	.000	.000
Con	Pearson Correlation			1	.982**	.969**	.936**	.965**	.970**
	Sig. (2-tailed)				.000	.000	.000	.000	.000
Cou	Pearson Correlation				1	.982**	.960**	.975**	.986**
	Sig. (2-tailed)					.000	.000	.000	.000
Beh	Pearson Correlation					1	.964**	.968**	.992**
	Sig. (2-tailed)						.000	.000	.000
Tra	Pearson Correlation						1	.938**	.983**
	Sig. (2-tailed)							.000	.000

Pai	Pearson Correlation							1	.981**
	Sig. (2-tailed)								.000
Beha	Pearson Correlation								1
** . Correlation is significant at the 0.01 level (2-tailed).									

Source: Researchers' reliance on the results of the (Smart Pls) program

According to Table (3), the validity of the main hypothesis and the subsidiary hypotheses will be confirmed, which are as follows:

1- The first main hypothesis: There is a significant correlation relationship between counterfactual thinking and behavioral governance at the macro level. Through the data of Table (3), it was found that there was a high and positive correlation relationship (0.986), but the level of morale was (0.000), which is less than the level of morale specified by the researchers (0.05), so this hypothesis is accepted at the research level.

2- The first sub-hypothesis: There is a significant correlation between influence and behavioral governance at the macro level. Through the data of Table (3), it became clear that there is a positive correlation (0.96), but the level of morale was (0.000), which is less than the level of morale specified by the researcher (0.05), so this hypothesis is accepted at the research level.

3- The second sub-hypothesis: There is a significant correlation between cognitive style and behavioral governance at the macro level. Through the data of Table (3), it was found that there was a positive correlation (0.97), but the level of morale was (0.000), which is smaller than the level of morale specified by researchers (0.05), so this hypothesis is accepted at the research level.

4- The third sub-hypothesis: There is a significant correlation between Confrontation strategies and behavioral governance at the macro level. Through the data of Table (3), it was found that there was a high and positive correlation (0.97), while the level of morale was (0.000), which is greater than the level of morale specified by the researchers (0.05), so this hypothesis is accepted at the research level.

Second: The internal consistency test: Cronbach's alpha test and the confirmatory factor analysis were used, as the confirmatory factor analysis test confirms the extent of consistency in the answers of the responding individuals. The statistical program (Smart Pls) will be used to extract the results of the confirmatory factor analysis and (Cronbach's alpha) coefficient, as it extracts the saturation percentages and the level of morale for each of the dimensional paragraphs and they appear on the arrows connected between the dimension and the paragraph. If the paragraph recorded an achieved morale level less than (0.05), the percentage of saturation is accepted, and

vice versa, the paragraph is deleted from the next analysis. As for the stability of the dimensions and variables, they will be tested with the verified and standard (Cronbach's alpha) coefficient of (0.68), and if the values of (Cronbach's alpha) are greater than the standard, this means that there is stability of the dimensions and variables, and the scale may be redistributed for the same sample, and the results will be almost the same within a certain period not exceeding two weeks.

It is noted from Figure (2) that the Cronbach alpha values on the right of the figure are greater than (68%) for all dimensions of the variables (counterfactual thinking and behavioral governance), that is, the scale can be redistributed again on the same sample. As for the confirmatory factor analysis coefficient, all items were recorded The questionnaire distributed on its dimensions has percentages of saturation with a significant level less than (0.05), and this indicates that the paragraphs of the questionnaire are consistent in the answers of the sample.

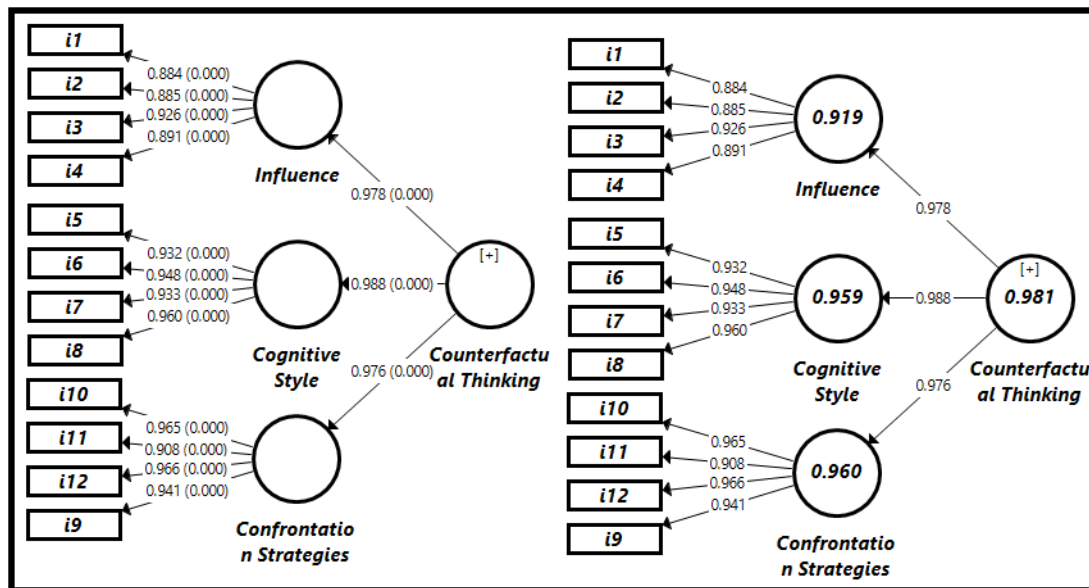


Figure (2) Cronbach's alpha values and the confirmatory factor analysis factor for counterfactual thinking

Source: Researchers' reliance on the results of the (Smart Pls) program

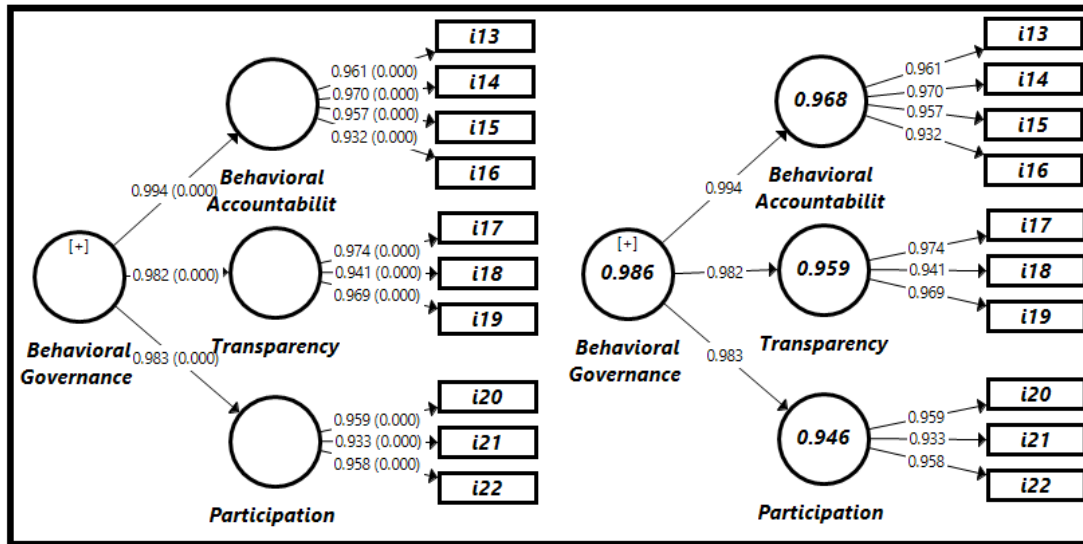


Figure (3) Cronbach's alpha values and the confirmatory factor analysis factor for behavioral governance

Source: Researchers' reliance on the results of the (Smart Pls) program

Third: Testing and analyzing the influence relationships of the research variables

Simple regression analysis was used in the tests to identify the effect of (counterfactual thinking) on (behavioral governance), and the (Beta) coefficient was used to find out the expected change in the dependent variable (behavioral governance) due to the change in one unit of the independent variable counterfactual thinking), and the coefficient of determination (R^2) was relied on to identify the model's ability to explain the relationship between the independent variables and the dependent variable, and a comparison between the strength of the effect of each of the independent variables was measured through (t-test), which indicates the significance of the results. And the research relied on a level of significance (0.05) to judge the extent of the significant effect, where the calculated level of morale was compared with the level of approved morality (0.05), and the effects are considered significant if the level of calculated morale is smaller than the level of approved morale and vice versa. The main one, which stipulated the existence of a significant effect of counterfactual thinking to reality in behavioral governance. And branched from this hypothesis (3) sub-hypotheses.

First: The main hypothesis: This hypothesis states that there is a positive statistically significant influence relationship for counterfactual thinking on behavioral governance at the macro level. Table (4) shows the results of the impact relationships test, counter-factual thinking in behavioral governance.

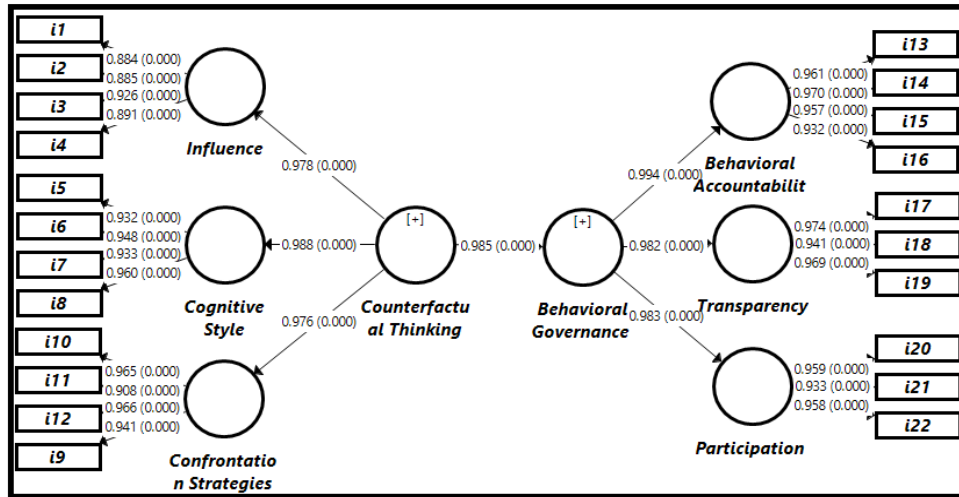


Figure (4) Impact factor of counterfactual thinking on behavioral governance

Source: Researchers' reliance on the results of (SmartPIs) program

Table (4) Results of analyzing the impact of counterfactual thinking on behavioral governance

	Beta	R ²	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Counterfactual Thinking -> Behavioral Governance	0.985	0.97	0.003	309.675	0.000

Source: Researchers' reliance on the results of (SmartPIs) program

According to Table (4), the adjusted coefficient of determination (Adjusted R²) indicates that the percentage of the explainer for thinking contrary to reality in behavioral governance amounted to (97%), which is a very strong percentage indicating that (97%) of the total differences in behavioral governance are determined through contradictory thinking, the remaining percentage (3%) represents the percentage of the contribution of the variables that are not included in the research model or random variables that cannot be controlled.. And the value of the regression coefficient (Beta) between them amounted to (0.985), and its significance was tested through the (T) test, where its calculated value reached (20.6), which is significant at the level (0.05).

Accordingly, the result confirms the validity and acceptance of the main hypothesis which states (there is a statistically significant and positive effect of counterfactual thinking in behavioral governance).

Second: Sub-hypotheses: This hypothesis states that there is a positive statistically significant influence relationship for thinking contrary to reality (influence, cognitive style and

Confrontation Strategies) in behavioral governance at the macro level. Table (5) shows the results of the impact relations test, counterfactual thinking in behavioral governance.

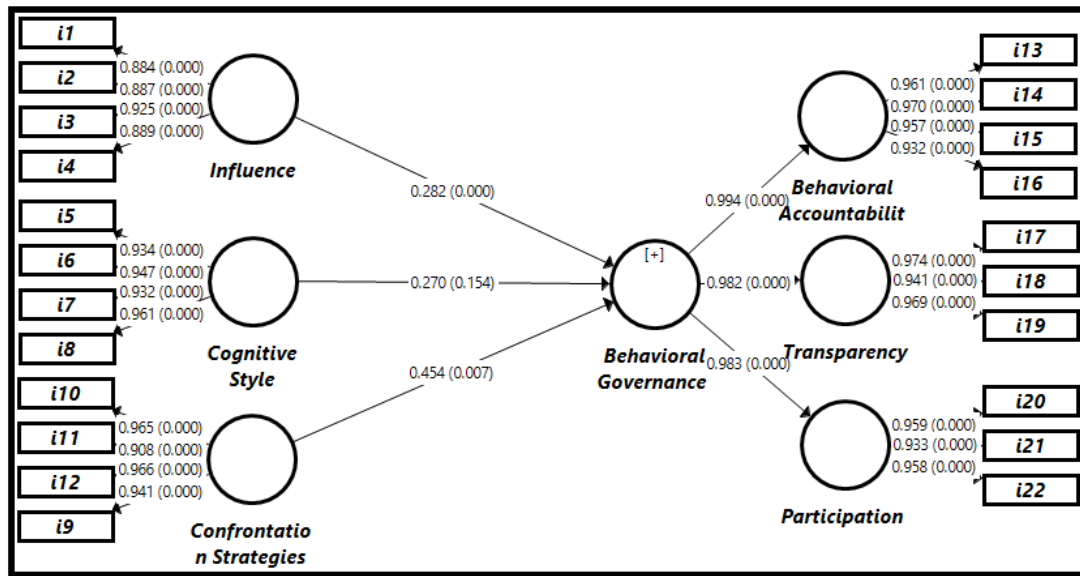


Figure (5) Impact factor for dimensions of counterfactual thinking in behavioral governance

Source: Researchers' reliance on the results of (SmartPIs) program

Table (5) Results of analyzing the impact of the dimensions of counterfactual thinking on behavioral governance

	Beta	R ²	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Influence -> Behavioral Governance	0.282		0.049	5.8	0.000
Cognitive Style -> Behavioral Governance	0.27	0.98	0.19	1.426	0.154
Confrontation Strategies -> Behavioral Governance	0.454		0.168	2.706	0.007

Source: Researchers' reliance on the results of (SmartPIs) program

According to Table (5), the adjusted coefficient of determination (Adjusted R2) indicates that the percentage of the explanation for the influence on behavioral governance was (98%), which is a very strong percentage indicating that (98%) of the total differences in behavioral governance are determined through the dimensions of counterfactual thinking. The remaining percentage (2%) represents the percentage of the contribution of the variables that are not included in the research model or random variables that cannot be controlled.. Below is a test of the sub-hypotheses according to the impact ratios and the level of morale after it is proven that the model explains the variations between the research variables, which are as follows:

1- The first sub-hypothesis: There is an effect of influencing behavioral governance at the macro level. According to the data of Table (5), it shows the significant value (effect) and according to the (t) test, the value of (t) calculated at the level of the research sample (5.8) is greater than its tabular value (1.645).

The value of the marginal propensity to influence at the level of the research sample was ($B1 = 0.28$), and the accompanying (effect) indicates that a change of (1) in influence leads to a positive change in behavioral governance, and on the basis of these results this hypothesis is accepted.

2- The second sub-hypothesis: There is an effect of the cognitive style on behavioral governance at the macro level. According to the data of Table (5), it shows the significant value according to the (t) test. The value of (t) calculated at the level of the research sample was (1.42), which is less than its tabular value (1.645).

The value of the marginal tendency of the cognitive style at the level of the research sample was ($B2 = 0.27$), it indicates that a change of (1) in the cognitive style leads to a positive change in behavioral governance, and on the basis of these results, this hypothesis is rejected.

3- The third sub-hypothesis: There is an effect of Confrontation Strategies on behavioral governance at the macro level. According to the data of Table (5), it shows the significant value according to the (t) test, the value of (t) calculated at the level of the research sample was (2.706), which is greater than its tabular value (1.645).

The value of the marginal slope of Confrontation Strategies at the level of the research sample was ($B3 = 0.45$), it indicates that a change of (1) in knowledge strategies leads to a positive change in behavioral governance, and on the basis of these results, this hypothesis is accepted.

The fourth topic: Conclusions and Recommendations

First: the conclusions

In this paragraph, the most important conclusions of the current research will be presented as follows.

1- Engaging in counterfactual thinking can increase motivation and perseverance towards improving future behavior and achieving goals in general.

2- The issue of behavioral governance is one of the hot and vital topics in organizations, as they have a major role in improving the performance of organizations.

3- The results of the study showed that there is a strong correlation between counterfactual thinking and behavioral governance, as it was found that there is a high and positive correlation

(0.986), while the level of morale was (0.000), which is less than the level of morale specified by the researcher (0.05), so this hypothesis is accepted at the search level

4- The results of the study showed that there is an impact relationship between counterfactual thinking and behavioral governance. Overall differences in behavioral governance are determined by counterfactual thinking

Second: Recommendations

In this paragraph, the most important recommendations of the current research will be presented, as follows.

1. The study recommends the adoption of the model proposed by the researcher to determine the components of Counterfactual thinking to measure, evaluate and develop behavioral governance because it includes the most frequent and agreed components among researchers, and the most appropriate to the nature of the work of the government institution and business organizations and what affects the achievement of governance.
2. Counterfactual thinking is often used to promote future problem solving. Therefore, counterfactual thinking is an important aspect of developing functional skills.
3. Focusing on behavioral governance in organizations helps in discovering the types of authentic employees' personalities, better understanding their behavior and getting to know them in the early stages of their working life.
4. Focusing on thinking contrary to reality helps to modify behavior.
5. The study recommends that local governments and councils apply behavioral governance because it helps to uncover ambiguity and change unconscious behavior.

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